

All claims related to the attachment of the jacket to the single continuous structure as described in the specification have been canceled from the application. Accordingly, no correction of the informal drawings is required at this point.

REMARKS

Reconsideration of the present application is respectfully requested in view of the above amendments and the following remarks. Amendments to the specifications and claims were made to specifically address issues brought up by the Examining Attorney in the Second Office Action. No new matter is added thereby by virtue of any amendment. Applicant respectfully submits that these amendments effectively cure the objections and any informality cited by the Examining Attorney.

I. Claims in the case

Claims 2, 5, 9, 10 and 13 have been canceled. Claims 1, 3, 4, 8, 11, 12 and 13-15 are presently in the case.

II. Claim Rejections Under 35 U.S.C. § 102

The Examining Attorney rejected claims 12, 14 and 15 as being anticipated by Knight (US Patent 6,305,476) under 35 U.S.C. § 102. Applicant respectfully submits that Knight does not anticipate any of the Applicant's claims, and offers the following argument in support thereof.

Although the figures provided in the current application, and figures 11-15 in the Knight application appear similar at first glance, the two inventions address two entirely different methods of producing oil and gas wells. The Knight invention addresses the use of an open-ended tubing where sufficient pressure exists in well to lift the fluid through the tubing to the surface without a pump. In the industry, this is known as a naturally flowing well, or artesian well. Extraction of fluid

from an artesian well only requires insertion of a passage or tube into the fluid. The formation of pressure then allows removal of the fluid.

The current application addresses an entirely different production situation, namely one where a downhole pump is needed to produce the pressure required to lift the fluid from the well. The objectives of the two inventions are entirely different; the objective of the Knight invention is to support an open ended tube in a naturally flowing well; the current application has the objective of supporting a submersible pump, an accompanying electrical cable in addition to the necessary tubing to pump a non-flowing well.

Although the word pump is mentioned once in association with figures 9-14 in the Knight patent, Knight does not disclose or claim the element of an electrically operated submersible pump. The Knight patent does not disclose or even imply the nature of the pump. The pump does not represent a material element of the Knight invention. The Knight patent could have been referring in passing to one of several types of pumps, including gas lift, mechanically operated, or gas operated. It is clear that Knight does not refer to an electrically operated submersible pump. In fact, Knight discusses the element of an electrical cable in the description of the invention which reads: "Fig. 11 discloses still another embodiment 300. Here, the flexible hose 300 includes an outer sleeve 302, hose portions 312 and 314, **wire 316 for enabling communications**, and cable 318 for weight load support as described above." (emphasis added).

Clearly, the purpose of the electrical cable in Knight's patent is communications and not powering a downhole pump. It is undisputed that without an appropriate "powering" electrical cable the element of an electrically operated submersible pump is not feasible or possible. This and the lack of the element of an electrical cable designed to power an electrically operated submersible

pump means Knight could not have anticipated the invention embodied in the current application.

Under the same section of the Second Office Action, the Examining Attorney discusses claims 14 and 15 of the Knight patent. The Knight patent contains only 6 claims, so these objections do not make sense unless the Applicant assumes the Examining Attorney was referring to lines 14 and 15 in the claims section of the Knight patent. Making this assumption, the same arguments would apply, namely the Knight patent does not anticipate the current application because an electrically operated submersible pump was not disclosed or claimed, nor was the appropriate cable or attachment means disclosed.

III. Claim Rejections Under 35 U.S.C. § 103

The rejection of claims 1, 3, 4, 8 and 11 are based on the assumption that the current application would be obvious in light of the Knight patent. As discussed in Section II above, Knight neither discloses nor claims the use of an electrically operated submersible pump. The purpose of the Knight patent is to produce flowing wells that do not require a pump for production. The use of artificial lift, such as the use of an electrically operated submersible pump, requires a much more complex suspension system because of the addition of the weight and complexity of the submersible pump and associated electrical cable.

On a point by point basis, a comparison of the current application with Knight reveals the differences. Both consist of three main elements, but the elements have entirely different functions. First, in the Knight patent, the suspension cable carries the load of tubing and perhaps a light weight communication cable. The suspension cable in Knight is not designed to carry the weight of the pump itself. In the current application, the suspension cable not only carries the load of the tubing, but also an electrical cable capable of powering a downhole pump, and the

weight of the pump itself.

The tubing of the two inventions is similar in construction, but has different functions. In Knight the tubing conveys a natural flow. In the current application the tubing to conveys pump output.

The most striking difference is the electrical cable itself. It would not be obvious that a small diameter, lightweight cable for communications would be the same or would fulfill the same function as a submersible pump power cable. Submersible pump cable, which is required for the current invention, is more than 10 times the weight per foot than communication cable. The mere mass of submersible pump cable requires that additional care and steps be taken to support it. Further, the pump's weight demands different solutions to the cable problem. The current application discloses and claims a combination of elements suited to provide these solutions. Such solutions address a fundamental problem intrinsic to the arrangement of this invention. No such solution would be obvious from a system that only requires a lightweight, communication cable.

If the Examining Attorney's arguments of obviousness are upheld, then the same arguments should have been applied to the Knight patent when viewed in light of Isaacs (US 5,524,708). Both patents describe the use of flexible hose that is supported by a suspension cable, for the use of producing fluids form oil and gas wells. The similarities are especially apparent when one compares figure 9 of Knight with figures 4 and 4a of Isaacs. The only difference between the two appears to be that Knight uses periodic connections between the support cable and the tubing, where Isaacs uses one at the top and one at the bottom of the string. This slight extension of the cable supported flexible tubing concept is much less of an extension

then where a combination structure of flexible tubing, flexible wire rope, and electrical cable is extended to work with submersible pumps.

In the past, the solutions to the unique problems associated with artificial lift have been deemed by the patent office to be non-obvious over prior art. As an example, Cox (US Patent No. 5,180,014) was awarded a patent for a system for deploying a submersible pump using reeled tubing because it was determined that solving the unique problems associated with submersible pumps was not obvious over conventional coiled tubing practice. A flexible tubing system capable of producing a well that flows naturally would not work with a well that requires a pump, and would need to be extensively modified and extended to produce such a well. Quite simply, the Knight patent was never intended to address the application of a well that requires an electrically operated submersible pump.

The extension of the Knight patent to the purpose of producing a well requiring the use of an electrically operated submersible pump is not a simple matter. At a minimum, to extend Knight's patent to achieve the arrangement and functionality of the present invention, Knight would have to: (1) provide means to suspend the submersible pump; (2) provide power to the submersible pump; and (3) support the necessary weight. Knight does not disclose or claim any of those elements. Further, such means are not obvious from the Knight patent, and represent a significant extension of the concept disclosed in Knight to address the problem of producing non-flowing wells using electrically operated submersible pumps.

Many examples exist of production systems developed or patented for naturally flowing wells that are extended to be used with other types of lift, where the extension is considered to be non-obvious over prior art. For example, the author of this patent application, Traylor, was

granted US Patent No. 6,017,198 which applied an existing coiled tubing string to a submersible pump application where the coil tubing is used to support and produce the well, even though coiled tubing was well known for the use of producing naturally flowing wells.

Specifically, although similar to the current application, the invention of Knight is not for the same purpose as the current application, nor is it obvious that the elements of Knight could be used in the manner suggested by the Examining Attorney to address this completely different application. The Knight application did not include an electrically operated submersible pump or the means to suspend or power such a pump. The electrical cable disclosed by Knight was specifically for the purpose of communications, not power transmission. It would not be obvious, by any stretch of the imagination, to use a communication cable for power transmission.

The Examining Attorney rejects claim 2 of the current application as being unpatentable due to obviousness of Knight in view of Ray. Claim 2 has been cancelled without prejudice.

The Examining Attorney rejects claims 5 and 9 as being unpatentable over Knight in view of Isaacs. Claim 5 and claim 9 have been cancelled without prejudice.

The Examining Attorney rejects claim 10 as being unpatentable over Knight in view of Brookbank. Claim 10 has been cancelled without prejudice.

Claim 13 is rejected as being unpatentable over Knight in view of the applicant's disclosure and Morgan et al. Claim 13 has been cancelled without prejudice.

Applicant respectfully requests reconsideration of the application in light of the amendments and arguments set forth herein.



Respectfully submitted,

BAUMAN, DOW, MCINTOSH & LEÓN, P.C.

~~Alberto A. Leon, J.D., Ph.D.
Attorney for Applicant
Reg. No. 38,223
Date: October 8, 2003
7309 Indian School Rd., NE
Albuquerque, New Mexico 87110
(505) 883-3191
E-mail: aal@bdmlawfirm.com~~

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